

PATENT CLAIMS

1. A borosilicate glass of high chemicals resistance,  
characterized by a composition (in % by weight, based  
5 on oxide) of:

	SiO <sub>2</sub>	70 - 77
	B <sub>2</sub> O <sub>3</sub>	6 - < 11.5
	Al <sub>2</sub> O <sub>3</sub>	4 - 8.5
10	Li <sub>2</sub> O	0 - 2
	Na <sub>2</sub> O	4 - 9.5
	K <sub>2</sub> O	0 - 5
	with Li <sub>2</sub> O + Na <sub>2</sub> O + K <sub>2</sub> O	5 - 11
	MgO	0 - 2
15	CaO	0 - 2.5
	with MgO + CaO	0 - 3
	ZrO <sub>2</sub>	0 - < 0.5
	CeO <sub>2</sub>	0 - 1

20 and, if appropriate, standard refining agents in  
standard amounts.

2. The borosilicate glass as claimed in claim 1,  
characterized by a composition (in % by weight, based  
25 on oxide) of:

	SiO <sub>2</sub>	70.5 - 76.5
	B <sub>2</sub> O <sub>3</sub>	6.5 - < 11.5
	Al <sub>2</sub> O <sub>3</sub>	4 - 8
30	Li <sub>2</sub> O	0 - 1.5
	Na <sub>2</sub> O	4.5 - 9
	K <sub>2</sub> O	0 - 5
	with Li <sub>2</sub> O + Na <sub>2</sub> O + K <sub>2</sub> O	5.5 - 10.5
	MgO	0 - 1
35	CaO	0 - 2
	with MgO + CaO	0 - 3
	ZrO <sub>2</sub>	0 - < 0.5
	CeO <sub>2</sub>	0 - 1

and, if appropriate, standard refining agents in standard amounts.

3. The borosilicate glass as claimed in claim 1 or 2,  
5 characterized in that it additionally contains (in % by weight, based on oxide):

SrO	0 - 1.5
BaO	0 - 1.5
10 with SrO + BaO	0 - 2
ZnO	0 - 1.

4. The borosilicate glass as claimed in at least one  
of claims 1 to 3, characterized in that it additionally  
15 contains (in % by weight, based on oxide):

$\text{Fe}_2\text{O}_3 + \text{Cr}_2\text{O}_3 + \text{CoO}$	0 - 1
$\text{TiO}_2$	0 - 3.

- 20 5. The borosilicate glass as claimed in at least one of claims 1 to 4, characterized in that, apart from inevitable impurities, it is free of  $\text{As}_2\text{O}_3$  and  $\text{Sb}_2\text{O}_3$ .

- 25 6. The borosilicate glass as claimed in at least one of claims 1 to 5, having a coefficient of thermal expansion  $\alpha_{20/300}$  of between  $> 5$  and  $6.0 \times 10^{-6}/\text{K}$ , in particular between  $> 5.3$  and  $5.9 \times 10^{-6}/\text{K}$ , and a working point  $V_A$  of at most  $1180^\circ\text{C}$ .

- 30 7. The use of the borosilicate glass as claimed in at least one of claims 1 to 6, as sealing glass for Fe-Co-Ni alloys.

- 35 8. The use of the borosilicate glass as claimed in at least one of claims 1 to 6 as instrument glass for laboratory applications and for the construction of chemical installations.

8. The use of the borosilicate glass as claimed in at least one of claims 1 to 6 as primary packaging material for pharmaceuticals, for example as ampoule glass.